

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior version, and listings, of claims in the application:

Listing of Claims:

1-49 (Canceled).

50. (New) An isolated nucleic acid molecule comprising an avian gut specific gene expression control region that hybridizes under moderate stringency conditions to a nucleic acid molecule having the nucleotide sequence of SEQ ID NO: 1, comprises a nucleotide sequence having at least 75% identity with SEQ ID NO: 2.

51. (New) The isolated nucleic acid molecule of Claim 1, wherein the avian is selected from the group consisting of a chicken, a turkey, a duck, a goose, a quail, a pheasant, a ratite, an ornamental bird or a feral bird.

52. (New) The isolated nucleic acid molecule of Claim 51, wherein the avian is a chicken.

53. (New) The isolated nucleic acid of Claim 50 wherein the control region comprises a sequence having at least 90% identity to SEQ ID NO: 2.

54. (New) The isolated nucleic acid of Claim 53 wherein the control region comprises a sequence having at least 95% identity to SEQ ID NO: 2.

55. (New) The isolated nucleic acid of Claim 54 wherein the control region comprises a sequence having at least 99% identity to SEQ ID NO: 2.

56. (New) The isolated nucleic acid of Claim 1 wherein the control region comprises the sequence SEQ ID NO: 2.

57. (New) The isolated nucleic acid molecule of Claim 1 wherein the control region consists of the sequence SEQ ID NO: 2.

58. (New) The isolated nucleic acid of Claim 1 wherein the control region comprises a sequence having at least 75% identity to SEQ ID NO: 1.

59. (New) The isolated nucleic acid molecule of Claim 58, wherein the control region comprises a sequence having at least 95% identity to SEQ ID NO: 1.

60. (New) The isolated nucleic acid molecule of Claim 59, wherein the control region comprises a sequence having at least 99% identity to SEQ ID NO: 1.

61. (New) The isolated nucleic acid of Claim 50 wherein the control region comprises the sequence SEQ ID NO: 1.

62. (New) The isolated nucleic acid molecule of Claim 50 wherein the control region consists of the sequence SEQ ID NO: 1.

63. (New) A recombinant nucleic acid molecule comprising an isolated avian gut-specific gene expression control region operably linked to a nucleic acid insert encoding a polypeptide.

64. (New) The recombinant nucleic acid molecule of Claim 63, wherein the avian is selected from the group consisting of a chicken, a turkey, a duck, a goose, a quail, a pheasant, a ratite, an ornamental bird or a feral bird.

65. (New) The recombinant nucleic acid molecule of Claim 64, wherein the avian is a chicken.

66. (New) The recombinant nucleic acid molecule of Claim 63, wherein the gut-specific gene expression control region comprises a nucleotide sequence that hybridizes under moderate stringency conditions to a nucleic acid molecule having the nucleotide sequence of SEQ ID NO: 1 and having at least 75% identity with the nucleotide sequence according to SEQ ID NO: 2.

67. (New) The recombinant nucleic acid molecule of Claim 66, wherein the gut-specific gene expression control region comprises the nucleotide sequence SEQ ID NO: 2.

68. (New) The recombinant nucleic acid molecule of Claim 67, wherein the gut-specific gene expression control region comprises the nucleotide sequence SEQ ID NO: 1.

69. (New) The recombinant nucleic acid molecule of Claim 63, further comprising a polyadenylation signal sequence operably linked to the insert encoding a polypeptide.

70. (New) The recombinant nucleic acid molecule of Claim 69, wherein the polyadenylation signal sequence is derived from the SV40 virus.

71. (New) The recombinant nucleic acid molecule of Claim 63, wherein the nucleic acid insert encoding a polypeptide has a codon complement optimized for protein expression in an avian.

72. (New) The recombinant nucleic acid molecule of Claim 63, further comprising an origin of replication selected from a bacterial origin of replication or a viral origin of replication.

73. (New) The recombinant nucleic acid molecule of Claim 63, wherein the recombinant nucleic acid molecule is a plasmid.

74. (New) The recombinant nucleic acid molecule of Claim 63, wherein the recombinant nucleic acid molecule is a virus.

75. (New) The recombinant nucleic acid molecule of Claim 63, wherein the recombinant nucleic acid molecule is an expression vector.

76. (New) The expression vector of Claim 75, comprising a polyadenylation signal sequence operably linked to the nucleic acid insert encoding the polypeptide.

77. (New) A method of expressing a heterologous polypeptide in a host cell, comprising the steps of:

introducing into a eukaryotic cell a recombinant nucleic acid molecule according to Claim 63; and

maintaining the transfected cell under conditions suitable for expression of the heterologous polypeptide under the control of the avian gut specific gene expression control region encoded by the recombinant nucleic acid molecule.

78. (New) A eukaryotic cell transformed with the expression vector according to Claim 75, or a progeny cell thereof, wherein the cell or the progeny thereof expresses the heterologous polypeptide.

79. (New) The eukaryotic cell of Claim 78, wherein the cell is an avian cell.

80. (New) The eukaryotic cell of Claim 78, wherein the cell is a chicken cell.

81. (New) The eukaryotic cell of Claim 78, wherein the cell is a cultured cell.

82. (New) The eukaryotic cell of Claim 78, wherein the cell is within a transgenic avian.

83. (New) The eukaryotic cell of Claim 78, wherein the nucleic acid insert encoding a polypeptide has a codon complement optimized for protein expression in an avian.

84. (New) A transgenic avian comprising a recombinant nucleic acid molecule according to Claim 63.

85. (New) The transgenic avian of Claim 84, wherein the avian is selected from the group consisting of a chicken, a turkey, a duck, a goose, a quail, a pheasant, a ratite, an ornamental bird or a feral bird.

86. (New) The transgenic avian of Claim 84, wherein the avian is a chicken.